INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Michael R. Pence
Governor
Thomas W. Easterly
Commissioner

September 25, 2013

VIA ELECTRONIC MAIL

Mr. Nick Spencer, Whiting Business Unit Leader
BP Products North America
2815 Indianapolis Boulevard
P.O. Box 710
Whiting, Indiana 46394-0710

Dear Mr. Spencer:

Re: NPDES Permit No. IN0000108
BP Products North America
Whiting, Indiana Lake County

Your application for a National Pollutant Discharge Elimination System (NPDES) permit for authorization to discharge into the waters of the State of Indiana has been processed in accordance with Section 402 and 405 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, et seq.), and IC 13-15, IDEM's permitting authority. All discharges from this facility shall be consistent with the terms and conditions of this permit.

One condition of your permit requires periodic reporting of several effluent parameters. These forms are available on the internet at the following web site:

http://www.in.gov/idem/5104.htm

Additionally, you will soon be receiving a supply of the computer generated preprinted federal NPDES DMR forms. Both the state and federal forms need to be completed and submitted on a routine basis. If you do not receive the preprinted DMR forms in a timely manner, please call this office at 317-232-8670.

Another condition which needs to be clearly understood concerns violation of the effluent limitations in the permit. Exceeding the limitations constitutes a violation of the permit and may subject the permittee to criminal or civil penalties. (See Part II A.2.) It is therefore urged that your office and treatment operator understand this part of the permit.

A response to the public comments received during the public comment period and from the public hearing pertaining to the draft NPDES permit is contained in the Post Public Notice Addendum. The Post Public Notice Addendum is located at the end of the Fact Sheet.

It should also be noted that any appeal must be filed under procedures outlined in IC 13-15-6, IC 4-21.5, and the enclosed Public Notice. The appeal must be initiated by filing a petition for administrative review with the Office of Environmental Adjudication (OEA) within eighteen (18) days of the mailing of this letter by filing at the following address:

Office of Environmental Adjudication
Indiana Government Center North
100 North Senate Avenue, Room 501
Indianapolis, IN 46204

Please send a copy of any written appeal to me at the IDEM, Office of Water Quality - Mail Code 65-42, 100 North Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions concerning the permit, please contact Mr. Steve Roush at 317/233-5747 or sroush@idem.in.gov . Questions concerning appeal procedures should be directed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,

Paul Higginbotham, Chief
Permits Branch
Office of Water Quality

Enclosures
cc: U.S. EPA, Region V
Lake County Health Department

STATE OF INDIANA

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Act"), and IDEM's authority under IC13-15,

BP PRODUCTS NORTH AMERICA, INC.
WHITING REFINERY

is authorized to discharge from a petroleum refinery located at 2815 Indianapolis Blvd., Whiting Indiana to receiving waters named Lake Michigan and the Lake George Branch of the Indiana Harbor Ship Canal in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, III and IV hereof. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

Effective Date: November 1, 2013

Expiration Date: October 31, 2018

In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Signed on September 25, 2013 for the Indiana Department of Environmental Management.

Paul Higginbotham, Chief
Permits Branch
Office of Water Quality

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 005 (The discharge from the diffuser located in Lake Michigan). The discharge is limited to treated process wastewater from normal refinery operations including maintenance, turnaround activities, excavation, dewatering, construction activities, tank cleaning, and temporary flows from upsets or downtime and from Ineos stormwater and Praxair process wastewater, recovered ground water, and other related offsite facilities, such as pipelines and terminals wastewater as well as most of the storm water from the site and re-treatment of off spec WWTP effluent. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS OUTFALL 005 [1][3][8]
Table 005-1

	Quantity or Loading			Quality or Concentration			Monitoring Requirements	
Parameter	Monthly Average	Daily Maximum	Units	Monthly Average	Daily Maximum	Units	Measurement Frequency	Sample Type
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
BOD_5	4,161	8,164	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
TSS	3,646	5,694	lbs/day	Report	Report	mg/l	2 x Weekly	24 Hr. Comp.
COD	30,323	58,427	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Oil and Grease	1,368	2,600	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
Total Phosphorus	Report	Report	lbs/day	1.0	Report	mg/l	1 x Weekly	24 Hr. Comp.
Phenolics (4AAP)	20.33	73.01	lbs/day	Report	Report	mg/l	1 x Weekly	Grab
Ammonia as N	1,030	2,060	lbs/day	Report	Report	mg/l	5 x Weekly	24 Hr. Comp.
Sulfide	23.1	51.4	lbs/day	Report	Report	mg/l	1 x Weekly	24-Hr Comp.
Total Chromium [2]	23.9	68.53	lbs/day	Report	Report	mg/l	1 x Weekly	24 Hr. Comp.
Hex. Chromium [4]	2.01	4.48	lbs/day	Report	Report	mg/l	1 x Weekly	24-Hr. Comp.
Vanadium [2][9]	50	100	lbs/day	0.28	0.56	mg/l	1 x Monthly	24-Hr. Comp.
Total Mercury [5][7][9]								
Final Limits	0.00022	0.00053	lbs/day	1.3	3.2	ng/l	6 x Yearly	Grab
Interim Variance Limits		Annual Average = 8.75			Report	ng/l	6 x Yearly	Grab
Whole Effluent Toxicity [6]								
Chronic	-	-	-	Report	-	TUc	2 x Yearly	

Table 005-1

Parameter	Quantity or Loading Monthly Average	Quantity or Loading Daily Maximum	Units	Quality or Concentration Monthly Average	Quality or Concentration Daily Maximum	Units	Monitoring Measurement Frequency	Requirements Sample Type
Arsenic [9]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Copper [9]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Chloride	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Fluoride	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24 Hr. Comp.
Lead [9]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Total Dissolved Solids (TDS)	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Manganese	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Selenium [9]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Strontium [9]	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Sulfate	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Nitrate-Nitrite	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24Hr. Comp.
Temperature	------	------	-------	-------	Report	°F	1 X Monthly	Grab
Benzo a pyrene	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	24 Hr. Comp.
Total Residual Chlorine	Report	Report	lbs/day	Report	Report	mg/l	2 X Monthly	Grab

Table 005-2

Parameter	Quality or Concentration Daily Minimum	Quality or Concentration Daily Maximum	Units	Monitoring Measurement Frequency	Requirements Sample Type
pH	6.0	9.0	s.u.	3 x Weekly	Grab

[1] In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 005 that are greater than the dosage rate identified in the permit application, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[2] The permittee shall measure and report the identified metals as total recoverable metals. One year after the Sulfur Recovery Unit (SRU) Beavon Stretford Solution blowdown (vanadium-based technology) has been replaced with the non-vanadium based Shell Claus Off-gas Treatment (SCOT), the permittee may request, in writing, a review of the effluent limits and monitoring requirement for Total Vanadium at Outfall 005.

[3] See Part I.B. of the permit for the Narrative Water Quality Standards.

[4] Hexavalent Chromium shall be measured and reported as dissolved metal. The Hexavalent Chromium sample type shall be a 24 hour composite sample. The maximum holding time for a Hexavalent Chromium sample is 28 days (40 CFR 136.3 Table IB). If the test results from the analysis performed for total chromium reveal that the concentration is less then the limitations for "Hexavalent Chromium", the the test for hexavalent chromium may be eliminated for that day and reported as the same concentration as total chromium for that day.

[5] Mercury monitoring shall be conducted bi-monthly monitoring in the months of February, April, June, August, October, and December of each year for the term of the permit.

The following EPA test methods and/or Standard Methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM.

Parameter	EPA Method	LOD	LOQ
Mercury	1631, Revision E	0.2 ng/l	0.5 ng/l

[6] The permittee shall conduct Whole Effluent Toxicity tests in accordance with Part I.G. of this permit.

[7] For the term of this permit, the permittee is subject to the variance discharge limit developed in accordance with 327 IAC 5-3.5-8. The permittee applied for, and received, a variance from the water quality criterion used to establish the referenced mercury WQBEL under 327 IAC 5-3.5. Compliance with the interim discharge limit will demonstrate compliance with mercury discharge limitations of this permit for Outfall 005. **The permittee shall report both a daily maximum value and an annual average for Mercury.** The annual average value shall be calculated pursuant to 327 IAC 5-3.5-8(a). Compliance with the interim variance limit for Mercury will be achieved when the average of the effluent daily values measured over the most recent (rolling) twelve-month period is less than the interim variance limit. The calculating and reporting of the annual average value for mercury is only required for the months when samples are taken for mercury.

BP shall at all times continue to operate and maintain the wastewater treatment system(s) in good working condition to minimize the discharge of Mercury. See Part IV of the permit for the Mercury Pollution Prevention Management Plan Requirements.

[8] The weekly sampling period is from Monday through Sunday.

[9] The permittee shall measure and report the identified metals as total recoverable metals.

2. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfall 002. The discharge is limited to non-contact cooling water. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS OUTFALL 002 [1][3][2]
Table 002-1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TOC	-	-	-	Report	5.0	mg/l	1 x Yearly	Grab
Total Residual Chlorine [5][6][7]	20.0	60.0	lbs/day	0.01	0.02	mg/l	1 x Weekly	Grab
Oil & Grease	-	-	-	Report	5.0	mg/l	1 x Monthly	Grab
Temperature [4]								
Intake	-	-	-	Report	Report	F°/Hour	5 x Weekly	Hourly
Discharge	-	-	-	Report	Report	F°/Hour	5 x Weekly	Hourly
Net (daily ave.)	-	-	-	1.7×10^9	2.0×10^9	BTU/Hour	5 x Weekly	Daily

Table 002-2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	3 x Weekly	Grab

[1] In the event that changes are to be made in the use of water treatment additives including dosage rates contributing to Outfall 002 that are greater than the dosage rate identified in the permit application, the permittee shall notify the Indiana Department of Environmental Management as required in Part II.C.1 of this permit. The use of any new or changed water treatment additives or dosage rates shall not cause the discharge from any permitted outfall to exhibit chronic or acute toxicity. Acute and chronic aquatic toxicity information must be provided with any notification regarding any new or changed water treatment additives or dosage rates.

[2] The weekly sampling period is from Monday through Sunday.

[3] See Part I.B. of the permit for the Narrative Water Quality Standards.

[4] The heatload shall be calculated by subtracting the average 24 hour temperature value of the intake water from the average 24 hour temperature value of the gross discharge converting to BTU/hr by multiplying the temperature difference by the average 24 hour discharge flow and the appropriate conversion factor. Temperature shall be monitored on a continuous basis except for periods of downtime, maintenance, repair or upset.

[5] The monthly average water quality based effluent limit (WQBEL) for total residual chlorine is less than the limit of quantitation (LOQ) as defined below. Compliance with the monthly average limit will be demonstrated if the monthly average effluent level is less than or equal to the monthly average WQBEL. Daily effluent values that are less than the LOQ, used to determine the monthly average effluent levels less than the LOQ, may be assigned a value of zero (0), unless, after considering the number of monitoring results that are greater than the limit of detection (LOD), and applying appropriate statistical techniques, a value other than zero (0) is warranted.

[6] The daily maximum WQBEL for total residual chlorine is equal to the LOD but less than the LOQ specified in the permit. Compliance with the daily maximum limit will be demonstrated if the observed effluent concentrations are less than the LOQ.

Compliance with the daily maximum mass value will be demonstrated if the calculated mass value is less than 60.0 lbs/day.

Parameter	Test Method	LOD	LOQ
Chlorine	4500-Cl-D,E or 4500-Cl-G	0.02 mg/l	0.06 mg/l

Case-Specific LOD/LOQ

The permittee may determine a case-specific LOD or LOQ using the analytical method specified above, or any other test method which is approved by the Commissioner prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

[7] See Part I.H. of the permit for Pollutant Minimization Program Requirements.

3. During the period beginning on the effective date of this permit and lasting until the expiration date, the permittee is authorized to discharge from Outfalls 003 and 004. The discharge is limited to stormwater associated with industrial activity from the J&L and Lake George areas of the refinery. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the Lake George Branch of the Indiana Harbor Ship Canal. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS OUTFALLS 003 and 004 [1][3][4]
Table 003/004-1

	Quantity or Loading			Quality or Concentration			Monitoring	Requirements
	Monthly	Daily		Monthly	Daily		Measurement	Sample
Parameter	Average	Maximum	Units	Average	Maximum	Units	Frequency	Type
Flow	Report	Report	MGD	----	----	----	Daily	24-Hr. Total
TOC	-	-	-	Report	110	mg/l	1 x Weekly[2]	Grab
Oil & Grease	-	-	-	Report	15	mg/l	1 x Weekly[2]	Grab

Table 003/004-2

	Quality or Concentration			Monitoring	Requirements
	Daily	Daily		Measurement	Sample
Parameter	Minimum	Maximum	Units	Frequency	Type
pH	6.0	9.0	s.u.	1 x Weekly[2]	Grab

[1] See Part I.B. of the permit for the Narrative Water Quality Standards.

[2] The permittee shall sample TOC, Oil & Grease, and pH during the first discharge of each week. If there is no discharge during any particular week, then the permittee shall report No Discharge for that week on the monthly DMR.

[3] The Storm Water Pollution Prevention Plan (SWP3) requirements can be found in Part I.D. and I.E. of this permit.

[4] The weekly sampling period is from Monday through Sunday.

B. NARRATIVE WATER QUALITY STANDARDS

At all times the discharge from any and all point sources specified within this permit shall not cause receiving waters:

1. including the mixing zone, to contain substances, materials, floating debris, oil, scum, or other pollutants:

   a. that will settle to form putrescent or otherwise objectionable deposits;

   b. that are in amounts sufficient to be unsightly or deleterious;

   c. that produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance;

   d. which are in amounts sufficient to be acutely toxic to , or to otherwise severely injure or kill aquatic life, other animals, plants, or humans;

   e. which are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such a degree as to create a nuisance, be unsightly, or otherwise impair the designated uses.

2. outside the mixing zone, to contain substances in concentrations which on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants.

C. MONITORING AND REPORTING

1. Representative Sampling

   Samples and measurements taken as required herein shall be representative of the volume and nature of the discharge.

2. Discharge Monitoring Reports

   a. For parameters with monthly average water quality based effluent limitations (WQBELs) below the LOQ, daily effluent values that are less than the limit of quantitation (LOQ) may be assigned a value of zero (0).

   b. For all other parameters for which the monthly average WQBEL is equal to or greater than the LOQ, calculations that require

averaging of measurements of daily values (both concentration and mass) shall use an arithmetic mean. When a daily discharge value is below the LOQ, a value of zero (0) shall be used for that value in the calculation to determine the monthly average unless otherwise specified or approved by the Commissioner.

c. Effluent concentrations less than the LOD shall be reported on the Discharge Monitoring Report (DMR) forms as < (less than) the value of the LOD. For example, if a substance is not detected at a concentration of 0.1 µg/l, report the value as <0.1 µg/l.

d. Effluent concentrations greater than or equal to the LOD and less than the LOQ that are reported on a DMR shall be reported as the actual value and annotated on the DMR to indicate that the value is not quantifiable.

e. Mass discharge values which are calculated from concentrations reported as less than the value of the limit of detection shall be reported as less than the corresponding mass discharge value.

f. Mass discharge values that are calculated from effluent concentrations greater than the limit of detection shall be reported as the calculated value.

The permittee shall submit federal and state discharge monitoring reports to the Indiana Department of Environmental Management containing results obtained during the previous month which shall be postmarked no later than the 28th day of the month following each completed monitoring period. The first report shall be submitted by the 28th day of the month following the month in which the permit becomes effective. All reports shall be mailed to IDEM, Office of Water Quality – Mail Code 65-42, Compliance Data Section, 100 North Senate Ave., Indianapolis, Indiana 46204-2251. In lieu of mailing paper reports the permittee may submit its reports to IDEM electronically by using the NetDMR application, upon registration and approval receipt. Electronically submitted reports (using NetDMR) have the same deadline as mailed reports. The Regional Administrator may request the permittee to submit monitoring reports to the Environmental Protection Agency if it is deemed necessary to assure compliance with the permit.

3. Definitions

a. Monthly Average

(1) Mass Basis - The "monthly average" discharge means the total mass discharge during a calendar month divided by

the number of days in the month that the production or commercial facility was discharging. Where less than daily samples is required by this permit, the monthly average discharge shall be determined by the summation of the measured daily mass discharges divided by the number of days during the calendar month when the measurements were made.

(2) Concentration Basis - The "monthly average" concentration means the arithmetic average of all daily determinations of concentration made during a calendar month. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day.

b. "Daily Discharge"

(1) Mass Basis – The "daily discharge" means the total mass discharge by weight during any calendar day.

(2) Concentration Basis – The "daily discharge" means the average concentration over the calendar day or any twenty-four (24) hour period that reasonably represents the calendar day for the purposes of sampling.

c. "Daily Maximum"

(1) Mass Basis – The "daily maximum" means the maximum daily discharge mass value for any calendar day.

(2) Concentration Basis – The "daily maximum" means the maximum daily discharge value for any calendar day.

(3) Temperature Basis – The "daily maximum" means the highest temperature value measured for any calendar day.

d.

A 24-hour composite sample consists of at least 3 individual flow-proportioned samples of wastewater, taken by the grab sample method or by an automatic sampler, which are taken at approximately equally spaced time intervals for the duration of the discharge within a 24-hour period and which are combined prior to analysis. A flow-proportioned composite sample may be obtained by:

(1) recording the discharge flow rate at the time each individual sample is taken,

(2) adding together the discharge flow rates recorded from each individuals sampling time to formulate the "total flow" value,

(3) the discharge flow rate of each individual sampling time is divided by the total flow value to determine its percentage of the total flow value,

(4) then multiply the volume of the total composite sample by each individual sample's percentage to determine the volume of that individual sample which will be included in the total composite sample.

e. Concentration -The weight of any given material present in a unit volume of liquid. Unless otherwise indicated in this permit, concentration values shall be expressed in milligrams per liter (mg/l).

f. The "Regional Administrator" is defined as the Region V Administrator, U.S. EPA, located at 77 West Jackson Boulevard, Chicago, Illinois 60604.

g. The "Commissioner" is defined as the Commissioner of the Indiana Department of Environmental Management, which is located at the following address: 100 North Senate Avenue, Indianapolis, Indiana 46204.

h. "Limit of Detection or LOD" means a measurement of the concentration of a substance that can be measured and reported with ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) for a particular analytical method and sample matrix. The LOD is equivalent to the method detection level or MDL.

i. "Limit of Quantitation or LOQ" means a measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calibrated at a specified concentration above the method detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant. This term is also sometimes called limit quantification or quantification level.

j. "Method Detection Level or MDL" means the minimum concentration of an analyte (substance) that can be measured and reported with a ninety-nine percent (99%) confidence that the analyte concentration is greater than zero (0) as determined by procedure set forth in 40 CFR 136, Appendix B. The method detection level or MDL is equivalent to the LOD.

4. Test Procedure

The analytical and sampling methods used shall conform to the current version of 40 CFR 136. Multiple editions of Standard Methods for the Examination of Water and Wastewater are currently approved for most methods, however, 40 CFR Part 136 should be checked to ascertain if a particular method is approved for a particular analyte. The approved methods may be included in the texts listed below. However, different but equivalent methods are allowable if they receive the prior written approval of the Commissioner and the U.S. Environmental Protection Agency.

a. Standard Methods for the Examination of Water and Wastewater 18th, 19th, or 20th Editions, 1992, 1995, or 1998, American Public Health Association, Washington, D.C. 20005.

b. A.S.T.M. Standards, Parts 23, Water; Atmosphere Analysis 1972 American Society for Testing and Materials, Philadelphia, PA 19103.

c. Methods for Chemical Analysis of Water and Wastes June 1974, Revised, March 1983, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, OH 45202.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The person(s) who performed the sampling or measurements;

c. The dates the analyses were performed;

d The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses and measurements.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant listed in Part I.A at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of this monitoring shall be included in the calculation and reporting of the values required in the monthly Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated. Other monitoring data not specifically required in this permit (such as internal process or internal waste stream data) which is collected by or for the permittee need not be submitted unless requested by the Commissioner.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recording from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years. In cases where the original records are kept at another location, a copy of all such records shall be kept at the permitted facility. The three years shall be extended:

a. automatically during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or regarding promulgated effluent guidelines applicable to the permittee; or

b. as requested by the Regional Administrator or the Indiana Department of Environmental Management.

D. STORM WATER SPECIAL CONDITIONS, ANNUAL REVIEW, CORRECTIVE ACTIONS AND INSPECTIONS

Within twelve (12) months of the effective date of this permit, BP Products North America shall implement the special conditions in this section of the permit for the J&L and Lake George areas as it relates to storm water associated with industrial activity from outfalls 003 and 004. Notwithstanding any other provisions of this permit, the provisions of this part are not required to address storm water discharges that are routed to treatment and discharged through Outfall 005.

1. Special Conditions

a. Maintenance

Implement a preventive maintenance program including:

(1) Implement good housekeeping practices so the J&L and Lake George areas will be operated in a clean and orderly manner and that pollutants will not have the potential to be exposed to storm water via vehicle tracking or other means.

(2) Maintenance of storm water management measures must be documented and either contained in, or have the on-site recordkeeping location referenced in, the SWP3.

(3) Inspect and test equipment and systems that are in areas that generate storm water discharges and have a reasonable potential for storm water exposure to pollutants to ensure appropriate maintenance of such equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

(4) At a minimum, quarterly inspections of the storm water management measures and storm water conveyances.

(5) An employee training program to inform personnel at all levels of responsibility that that have the potential to engage in industrial activities that impact storm water quality of the components and goals of the SWP3. Training must occur annually and should address topics such as spill response, good housekeeping, and materials management practices.

b. Spill Prevention and Response Procedures

A written spill response plan, including:

(A) Location, description and quantity of all response materials and equipment.

(B) Response procedures for facility personnel to respond to a release.

(C) Contact information for reporting spills, both for facility personnel and external emergency response entities.

c. Erosion and Sediment Controls

Implement measures to reduce erosion from areas, due to topography, activities, or other factors, have a high potential for significant soil erosion.

d. Management of Runoff

Divert, infiltrate, reuse, contain or otherwise reduce storm water runoff, to minimize pollutants in the discharge.

e. Non-Storm Water Discharges

Determine if any non-storm water discharges not authorized by an NPDES permit exist. Any non-storm water discharges discovered must either be eliminated or modified and included in this permit.

The following non-storm water discharges are authorized and should be documented when they occur in accordance with Part I.E.2.c of this permit:

- Fire Training or system flushing;
- Potable water sources including water line flushing;
- Uncontaminated ground water;
- Routine exterior building wash down that does not use detergents or other compounds;
- Pavement wash waters where spills or leaks of toxic or hazardous material have not occurred and where detergents are not used;
- Air conditioning condensates; and
- Equipment hydro-testing using fire water.

2. Annual Review

At least once every calender year, you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limitations in Part I.A.3 of this permit. You must document the results of your review in a report that shall be retained within the SWPPP. BP must also submit the report including any updates to the SWP3 to the Industrial NPDES Permit Section on an annual basis by April 1st of each year.

3. Corrective Actions – Conditions Requiring Review

a. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated:

(1) an unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by this NPDES permit) occurs at this facility;

(2) a violation of a numeric effluent limit;

(3) a determination that your control measures are not stringent enough for the discharge to meet applicable water quality standards;

(4) a determination in your routine facility inspection, an inspection by EPA or IDEM, comprehensive site evaluation, or the Annual Review required in Part D.2 that modifications to the control measures are necessary to meet the effluent limits in this permit or that your control measures are not being properly operated and maintained; or

(5) Upon written notice by the Commissioner that the control measures prove to be ineffective in controlling pollutants in storm water discharges exposed to industrial activity.

b. If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet the effluent limits in this permit:

(1) construction or a change in design, operation, or maintenance at your facility that significantly changes the nature of pollutants discharged in stormwater from your facility, or significantly increases the quantity of pollutants discharge.

4. Corrective Action Deadlines

You must document your discovery of any of the conditions listed in Part I.D.3 within thirty (30) days of making such discovery. Subsequently, within one-hundred and twenty (120) days of such discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency or if no corrective action is needed, the basis for that determination. Specific documentation required within 30 and 120 days is detailed below. If you determine that changes to your control measures are necessary following your review, any modifications to your control measures must be made before the next storm event if possible, or as soon as practicable following that storm event. These time intervals are not grace periods, but schedules considered reasonable for the documenting of your findings and for making repairs and improvements. They are included in this permit to ensure that the conditions prompting the need for these repairs and improvements are not allowed to persist indefinitely.

5. Corrective Action Report

Within 30 days of a discovery of any condition listed in Part I.D.3, you must document the following information:

a. Brief description of the condition triggering corrective action;

b. Date condition identified; and

c. How deficiency identified.

Within 120 days of discovery of any condition listed in Part I.D.3, you must document the following information:

a. Summary of corrective action taken or to be taken (or, for triggering events identified in Part I.D.3.a where you determine that corrective action is not necessary, the basis for this determination)

b. Notice of whether SWPPP modifications are required as a result of this discovery or corrective action;

c. Date corrective action initiated; and

d. Date corrective action completed or expected to be completed.

6. Comprehensive Site Compliance Evaluation – Qualified personnel shall conduct a comprehensive compliance evaluation of the J&L and Lake George areas, at least once per year, to confirm the accuracy of the description of potential pollution sources contained in the plan, determine the effectiveness of the plan, and assess compliance with the permit. Such evaluations shall provide:

(1) Areas contributing to a storm water discharge associated with industrial activity shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measure, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

As part of the routine inspections, address all potential sources of pollutants. Also inspect all material handling equipment (e.g., vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., tank farms) for signs of material loss due to storm water runoff.

(2) Based on the results of the evaluation, the description of potential pollutant sources identified in the plan in accordance with Part I.E.2.b of this permit and pollution prevention measures and controls identified in the plan in accordance with Part I.D.1. of this permit shall be revised as appropriate within the timeframes contained in Part I.D.4 of this permit.

(3) A report summarizing the scope of the evaluation, personnel making the evaluation, the date(s) of the

evaluation, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with the above paragraph must be documented and either contained in, or have on-site record keeping location referenced in, the SWP3 at least 3 years after the date of the evaluation. The report shall identify any incidents of noncompliance. Where a report does not identify any incidents of noncompliance, the report shall contain a certification that the facility is in compliance with this permit. The report shall be signed in accordance with the signatory requirements of Part II.C.6 of this permit.

(4) Where compliance evaluation schedules overlap the inspections required under Part I.D.6, the compliance evaluation may be conducted in place of one such inspection.

E. STORM WATER POLLUTION PREVENTION PLAN

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Storm Water Pollution Prevention Plan (SWP3) for storm water outfalls 003 and 004 for the permitted facility. The plan shall at a minimum include the following:

a. Identify potential sources of pollution, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. Storm water associated with industrial activity (defined in 40 CFR 122.26(b)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;

b. Describe practices and measure to be used in reducing the potential for pollutants to be exposed to storm water; and

c. Assure compliance with the terms and conditions of this permit.

d. Notwithstanding any other provisions of this permit, the SWP3 is not required to address storm water that is routed to the treatment system that discharges through Outfall 005.

2. Contents

The plan shall include, at a minimum, the following items:

a. Pollution Prevention Team -The plan shall list, by position title, the member or members of the facility organization as members of a storm water Pollution Prevention Team who are responsible for developing the storm water pollution prevention plan (SWP3) and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each storm water pollution prevention team member. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

b. Description of Potential Pollutant Sources – The plan shall provide a description of areas at the site exposed to industrial activity and have a reasonable potential for storm water to be exposed to pollutants. The plan shall identify all activities and significant materials (defined in 40 CFR 122.26(b)), which may potentially be significant pollutant sources. As a minimum, the plan shall contain the following:

(1) A soils map indicating the types of soils found on the facility property and showing the boundaries of the facility property.

(2) A graphical representation, such as an aerial photograph or site layout maps, drawn to an appropriate scale, which contains a legend and compass coordinates, indicating, at a minimum, the following:

(A) All on-site storm water drainage and discharge conveyances, which may include pipes, ditches, swales, and erosion channels, related to a storm water discharge.

(B) Known adjacent property drainage and discharge conveyances, if directly associated with run-off from the facility.

(C) All on-site and known adjacent property water bodies, including wetlands and springs.

(D) An outline of the drainage area for each outfall.

(E) An outline of the facility property, indicating directional flows, via arrows, of surface drainage patterns.

(F) An outline of impervious surfaces, which includes pavement and buildings, and an estimate of the impervious and pervious surface square footage for each drainage area placed in a map legend.

(G) All existing major structural control measures to reduce pollutants in storm water run-off.

(H) All existing and historical underground or aboveground storage tank locations, as applicable.

(I) All permanently designated plowed or dumped snow storage locations.

(J) All loading and unloading areas for solid and liquid bulk materials.

(K) All existing and historical outdoor storage areas for raw materials, intermediary products, final products, and waste materials. Include materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities.

(L) All existing or historical outdoor storage areas for fuels, processing equipment, and other containerized materials, for example, in drums and totes.

(M) Outdoor assigned waste storage or disposal areas.

(N) Pesticide or herbicide application areas.

(O) Vehicular access roads.

The mapping of historical locations is only required if the historical locations have a reasonable potential for stormwater exposure to historical pollutants.

(3) An area site map that indicates:

(A) The topographic relief or similar elevations to determine surface drainage patterns;

(B) The facility boundaries;

(C) All receiving waters; and

(D) All known drinking water wells; and

Includes at a minimum, the features in clauses (A), (C), and (D) within a one-fourth (1/4) mile radius beyond the property boundaries of the facility. This map must be to scale and include a legend and compass coordinates.

(4) A narrative description of areas that generate stormwater discharges exposed to industrial activity including descriptions for any existing or historical areas listed in subdivision 2.b.(2)(J) through (T) of this Part, and any other areas thought to generate storm water discharges exposed to industrial activity. The narrative descriptions for each identified area must include the following:

(A) Type and typical quantity of materials present in the area.

(B) Methods of storage, including presence of any secondary containment measures.

(C) Any remedial actions undertaken in the area to eliminate pollutant sources or exposure of storm water to those sources. If a corrective action plan was developed, the type of remedial action and plan date shall be referenced.

(D) Any significant release or spill history dating back a period of three (3) years from the effective date of this permit, in the identified area, for materials spilled outside of secondary containment structures and impervious surfaces in excess of their reportable quantity, including the following:

i. The date and type of material released or spilled.

ii. The estimated volume released or spilled.

iii. A description of the remedial actions undertaken, including disposal or treatment.

Depending on the adequacy or completeness of the remedial actions, the spill history shall be used to determine additional pollutant sources that may be exposed to storm water. In subsequent permit terms, the history shall date back for a period of five (5) years from the date of the permit renewal application.

(E) Where the chemicals or materials have the potential to be exposed to storm water discharges, the descriptions for each identified area must include a risk identification analysis of chemicals or materials stored or used within the area. The analysis must include the following:

i. Toxicity data of chemicals or materials used within the area, referencing appropriate material safety data sheet information locations.

ii. The frequency and typical quantity of listed chemicals or materials to be stored within the area.

iii. Potential ways in which storm water discharges may be exposed to listed chemicals and materials.

iv. The likelihood of the listed chemicals and materials to come into contact with water.

(5) A narrative description of existing and planned management practices and measures to improve the quality of storm water run-off entering a water of the state. Descriptions must be created for existing or historical areas listed in subdivision 2.b.(2)(H) through (O) and any other areas thought to generate storm water discharges exposed to industrial activity. The description must include the following:

(A) Any existing or planned structural and

nonstructural control practices and measures.

(B) Any treatment the storm water receives prior to leaving the facility property or entering a water of the state.

(C) The ultimate disposal of any solid or fluid wastes collected in structural control measures other than by discharge.

(6) Describe areas that due to topography, activities, or other factors have a high potential for significant soil erosion.

(7) Information or other documentation required under subsection (d) of this plan.

(8) The results of storm water monitoring. The monitoring data must include completed field data sheets, chain-of-custody forms, and laboratory results. If the monitoring data are not placed into the facility's SWP3, the on-site location for storage of the information must be reference in the SWP3.

c. Measures and Practices – For the J&L and Lake George areas of the facility that generate storm water discharges and have the potential for exposure to pollutants, that exposure must be minimized. To ensure this reduction, the following practices and measures must documented to meet the special conditions in Part I.D and the effluent limitations in Part I.A.3.

(1) A written preventative maintenance program, including the following:

(A) Implementation of good housekeeping practices to ensure the J&L and Lake George areas.

(B) Maintenance of storm water management measures must be documented and either contained in, or have the on-site recordkeeping location referenced in, the SWP3.

(C) Inspection and testing of equipment and systems that are in areas that generate storm water discharges.

(D) Quarterly inspections of the storm water management measures and storm water conveyances. Inspections must be documented and either contained in, or have the on-site record keeping location referenced in the SWP3.

(E) The employee training program. All employee training sessions, including relevant storm water topics discussed and a roster of attendees, must be documented and either contained in or have an on-site record keeping location referenced in the SWP3.

d. Non-Storm Water Discharges – You must document that you have evaluated for the presence of non-storm water discharges not authorized by a NPDES permit. Any non-storm water discharges have either been eliminated or incorporated into this permit. Documentation of non-storm water discharges shall include

(1) A written non-storm water assessment, including the following:

(A) A certification letter stating that storm water discharges entering a water of the state have been evaluated for the presence of illicit discharges and non-storm water contributions.

(B) The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during the test.

e. General Requirements – The SWP3 must meet the following general requirements:

(1) The plan shall be certified by a qualified professional. The term qualified professional means an individual who is trained and experienced in water treatment techniques and related fields as may be demonstrated by state registration, professional certification, or completion of course work that enable the individual to make sound, professional judgments regarding storm water control/treatment and monitoring, pollutant fate and transport, and drainage planning.

(2) The plan shall be retained at the facility and be available for review by a representative of the Commissioner upon request.

IDEM may provide access to portions of your SWP3 to the public.

(3) The plan must be revised and updated as required. Revised and updated versions of the plan must be implemented within one year of the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.

(4) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWP3, these plans may be referenced, at the permittee's discretion, in the appropriate sections of the SWP3 to meet those section requirements.

(5) The permittee may combine the requirements of the SWP3 with another written plan if:

(A) The plan is retained at the facility and available for review;

(B) All the requirements of the SWP3 are contained within the plan; and

(C) A separate, labeled section is utilized in the plan for the SWP3 requirements.

(D) BP shall submit an electronic copy of the revised SWP3 to the industrial NPDES permit section once completed.

F. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

b. controls any pollutant not limited in the permit.

2. to incorporate any of the reopening clause provisions cited at 327 IAC 5-2-16.

3. to comply with any applicable standards, regulations and requirements issued or approved under section 316(b) of the Clean Water Act, if the standards, regulations and requirements so issued or approved contains different conditions than those in this permit.

4. If a treatment technology for the removal of mercury from wastewater is identified and is determined by IDEM to be available and economically viable, then BP must install and fully operate that treatment technology as soon as possible. Within 6 months after IDEM's determination or the final disposition of any appeal of such determination, whichever is later, BP shall submit a schedule, subject to IDEM approval, for the installation and operation of the identified treatment technology that is as expeditious as possible. Any such determination shall be considered final agency action, which BP may appeal. Upon completion of 12 months of operation, IDEM should modify the permit in accordance with 327 IAC 5-3.5-8 to revise the effective effluent limits for mercury at Outfall 005.

5. One year after the Sulfur recovery Unit (SRU) Beavon Stretford Solution blowdown (vanadium-based technology) has been replaced with non-vanadium based Shell Claus Off-gas Treatment (SCOT), the permittee may request, in writing, a review of the effluent limits and monitoring requirements for Total Vanadium at Outfall 005.

6. to include revised Streamlined Mercury Variance (SMV) and/or Pollutant minimization Program Plan (PMPP) requirements in the event that revisions to the SMV Requirements and Application Process under 327 IAC 5-3.5 occur.

7. to include a case-specific Limit of Detection (LOD) and/or Limit of Quantitation (LOQ). The permittee must demonstrate that such action is warranted in accordance with the procedures specified under Appendix B, 40 CFR Part 136, using the most sensitive analytical methods approved by EPA under 40 CFR Part 136, or approved by the Commissioner.

8. this permit may be modified or revoked and reissued after public notice and opportunity for hearing to revise or remove the requirements of the pollutant minimization program, if supported by information generated as a result of the program for Total Residual Chlorine.

9. to specify the use of a different analytical method if a more sensitive analytical method has been specified in or approved under 40 CFR 136 or approved by the Commissioner to monitor for the presence and amount in the effluent of the pollutant for which the WQBEL is established. The

permit shall specify, in accordance with 327 IAC 5-2-11.6(h)(2)(B), the LOD and LOQ that can be achieved by use of the specified analytical method.

G. BIOMONITORING PROGRAM REQUIREMENTS

The 1977 Clean Water Act explicitly states, in Section 101(3) that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. In support of this policy the U.S. EPA in 1995 amended 40 CFR 136.3 (Tables IA and II) by adding testing method for measuring acute and short-term chronic toxicity of whole effluents and receiving waters. To adequately assess the character of the effluent, and the effects of the effluent on aquatic life, the permittee shall conduct Whole Effluent Toxicity Testing. Part 1 of this section describes the testing procedures, Part 2 describes the Toxicity Reduction Evaluation (TRE) which is only required if the effluent demonstrated toxicity, as described in section 1.f.

1. Whole Effluent Toxicity Tests

The permittee shall continue with their current schedule of the series of bioassay tests described below to monitor the toxicity of the discharge from Outfall 005. If toxicity is demonstrated as defined under section f. below, the permittee is required to conduct a toxicity reduction evaluation (TRE).

a. Bioassay Test Procedures and Data Analysis

(1) All test organisms, test procedures and quality assurance criteria used shall be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms; Fourth Edition Section 13, Cladoceran (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0; and Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test Method, (1000.0) EPA 821-R-02-013, October 2002, or most recent update.

(2) Any circumstances not covered by the above methods, or that required deviation from the specified methods shall first be approved by the IDEM's Permit Branch.

(3) The determination of effluent toxicity shall be made in accordance with the Data Analysis general procedures for chronic toxicity endpoints as outlined in Section 9, and in Sections 11 and 13 of the respective Test Method (1000.0 and 1002.0) of Short-term Methods of Estimating the

Chronic Toxicity of Effluent and Receiving Water to Freshwater Organisms (EPA-821-R-02-013), Fourth Edition, October 2002, or most recent update.

b. Types of Bioassay Tests

(1) The permittee shall conduct 7-day Daphnid (*Ceriodaphnia dubia*) Survival and Reproduction Test and a 7-day Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test on samples of final effluent. All tests will be conducted on 24-hour composite samples of final effluent. All test solutions shall be renewed daily. On days three and five fresh 24-hour composite samples of the effluent collected on alternate days shall be used to renew the test solutions.

(2) If, in any control, more than 10% of the test organisms die in 96 hours, or more than 20% of the test organisms die in 7 days, that test shall be repeated. In addition, if in the *Ceriodaphnia* test control the number of newborns produced per surviving female is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow test if the mean dry weight of 7-day old surviving fish in the control group is less than 0.25 mg, that test shall also be repeated. Such testing will determine whether the effluent affects the survival, reproduction, and/or growth of the test organisms. Results of all tests regardless of completion must be reported to IDEM.

c. Effluent Sample Collection and Chemical Analysis

(1) Samples taken for the purposes of Whole Effluent Toxicity Testing will be taken at a point that is representative of the discharge, but prior to discharge. The maximum holding time for whole effluent is 36 hours for a 24 hour composite sample from time of last aliquot.. Bioassay tests must be started within 36 hours after termination of the 24 hour composite sample collection. Bioassay of effluent sampling may be coordinated with other permit sampling requirements as appropriate to avoid duplication.

(2) Chemical analysis must accompany each effluent sample taken for bioassay test, especially the sample taken for the repeat or confirmation test as outlined in section f.3. below. The analysis detailed under Part I.A. should be conducted

for the effluent sample. Chemical analysis must comply with approved EPA test methods.

d. Testing Frequency and Duration

The chronic toxicity test specified in section b. above shall be conducted at least once every six months for the duration of the permit. After four tests have been completed, the permittee may reduce the number of species tested to only include the most sensitive to the toxicity in the effluent with IDEM's concurrence. In the absence of toxicity with either species in the monthly testing for four (4) months in the current tests, sensitive species will be selected based on frequency and failure of whole effluent toxicity tests with one or the other species in the immediate past.

If toxicity is demonstrated as defined under section f., the permittee is required to conduct a toxicity reduction evaluation (TRE) as specified in Section 2.

e. Reporting

(1) Results shall be reported according to EPA 821-R-02-013, October 2002, Section 10 (Report Preparation). Two copies of the completed report for each test shall be submitted to the Compliance Evaluation Section, Office of Water Quality of the IDEM no later than sixty days after completion of the test.

(2) For quality control, the report shall include the results of appropriate standard reference toxic pollutant tests for chronic endpoints and historical reference toxic pollutant data with mean values and appropriate ranges for the respective test species Pimephales promelas and *Ceriodaphnia dubia*. Biomonitoring reports must also include copies of Chain-of-Custody Records and Laboratory raw data sheets.

(3) Statistical procedures used to analyze and interpret toxicity data including critical values of significance used to evaluate each point of toxicity should be described and included as part of the biomonitoring report.

f. Demonstration of Toxicity

(1) Acute toxicity will be demonstrated if the effluent is observed to have exceeded 11.0 TU_a (acute toxic units) based on 100% effluent for the test organism in 48 and 96 hours for *Ceriodaphnia dubia* or *Pimephales promelas*, respectively.

(2) Chronic toxicity will be demonstrated if the effluent is observed to have exceeded 37.0 TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas*.

(3) If toxicity is found in any of the tests as specified above, a confirmation toxicity test using the specified methodology and same test species shall be conducted within two weeks of the completion of the failed test to confirm results. During the sampling for any confirmation test the permittee shall also collect and preserve sufficient effluent samples for sue in any Toxicity Identification Evaluation (TIE) and/or Toxicity Reduction Evaluation (TRE), if necessary. If any two (2) consecutive tests, including any and all confirmation tests, indicate the presence of toxicity, the permittee must begin the implementation of a Toxicity Reduction Evaluation (TRE) as described below. The whole effluent toxicity tests required above may be suspended (upon approval from IDEM) while the TRE/TIE are being conducted.

g. Definitions

(1) TU_c is defined as 100/NOEC or $100/IC_{25}$, where the NOEC or IC_{25} are expressed as a percent effluent in the test medium.

(2) TU_a is defined as $100/LC_{50}$ where the LC_{50} is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.

(3) "Inhibition concentration 25" or "IC_{25}" means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC_{25} is the concentration of toxicant (effluent) that would cause a

twenty-five percent (25%) reduction in mean young per female or in growth for the test population.

(4) "No observed effect concentration" or "NOEC" is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant (effluent) in which the values for the observed responses are not statistically significantly different from the controls.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE (including any post-TRE biomonitoring requirements) is only required if toxicity is demonstrated as defined in Part 1, section f. above.

a. Development of TRE Plan

Within 90 days of determination of toxicity, the permittee shall submit plans for an effluent toxicity reduction evaluation (TRE) to the Compliance Data Section, Office of Water Quality of the IDEM. The TRE plan shall include appropriate measures to characterize the causative toxicants and the variability associated with these compounds. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications list below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characteristics Procedures, Second Edition (EPA/600/6-91/003, February 1991.

Phase II Toxicity Identification Procedures (EPA 600/R-92/080), September 1993.

Phase III Toxicity Confirmation Procedures (EPA 600/R-92/081), September 1993.

(2) Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I. EPA/600/6-91/005F, May 1992.

(3) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs), (EPA/600/2-88/070), April 1989.

(4) Toxicity Reduction Evaluation Protocol for Municipal Wastewater Treatments Plants (EPA/833-B-99-022) August 1999.

b. Conduct the Plan

Within 30 days after the submission of the TRE plan to IDEM, the permittee must initiate an effluent TRE consistent with the TRE plan. Progress reports shall be submitted every 90 days to the Compliance Data Section, Office of Water Quality of the IDEM beginning 90 days after initiation of the TRE study.

c. Reporting

Within 90 days of the TRE study completion, the permittee shall submit to the Compliance Data Section, Office of Water Quality of the IDEM, the final study results and a schedule for reducing the toxicity to acceptable levels through control of the toxicant source or treatment of whole effluent.

d. Compliance Date

The permittee shall complete items a, b, and c from Section 2 above and reduce the toxicity to acceptable levels as soon as possible, but no later than three years after the date of determination of toxicity.

e. Post-TRE Biomonitoring Requirements (Only Required After Completion of a TRE)

After the TRE, the permittee shall conduct monthly toxicity tests with 2 or more species for a period of three months. Should three consecutive monthly tests demonstrate no toxicity, the permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent, (see section 1.d. above for more specifics on this topic), and conduct chronic tests quarterly for the duration of the permit.

If toxicity is demonstrated, as defined in paragraph 1.f. above, after the initial three month period, testing must revert to a TRE as described in Part 2 (TRE) above.

H. POLLUTION MINIMIZATION PROGRAM

Since this permit contains water quality-based effluent limits for Total Residual Chlorine, the permittee is required to develop and conduct a pollutant minimization program (PMP) for each pollutant with a WQBEL below the LOQ.

a. The goal of the pollutant minimization program shall be to maintain the effluent at or below the WQBEL. The pollutant minimization program shall include, but is not limited to, the following:

(1) Submit a control strategy designed to proceed toward the goal within 180 days of the effective date of this permit.

(2) Implementation of appropriate cost-effective control measures, consistent with the control strategy within 180 days of the effective date of this permit.

(3) Monitor as necessary to record the progress toward the goal. Potential sources of the pollutant shall be monitored on a semi-annual basis. Quarterly monitoring of the influent of the wastewater treatment system is also required. The permittee may request a reduction in this monitoring requirement after four quarters of monitoring data.

(4) Submit an annual status to the Commissioner at the address listed in Part I.C.3.g. to the attention of the Office of Water Quality, Compliance Data Section, by January 31 of each year that includes the following information:

(i) All minimization program monitoring results for the previous year.

(ii) A list of potential sources of the pollutant.

(iii) A summary of all actions taken to reduce or eliminate the identified sources of the pollutant.

(5) A pollution minimization program may include the submittal of pollution prevention strategies that use changes in production process technology, materials, processes, operations, or procedures to reduce or eliminate the source of the pollutant.

b. No pollution minimization program is required if the permittee demonstrates that the discharge of a pollutant with a WQBEL below the LOQ is reasonably expected to be in compliance with the WQBEL at the

point of discharge into the receiving water. This demonstration may include, but is not limited to, the following:

(1) Treatment information, including information derived from modeling the destruction of removal of the pollutant in the treatment process.

(2) Mass balance information.

(3) Fish tissue studies or other biological studies.

c. In determining appropriate cost-effective control measures to be implemented in a pollution minimization program, the following factors may be considered:

(1) Significance of sources.

(2) Economic and technical feasibility.

(3) Treatability.

I. DIFFUSER MONITORING REQUIREMENTS

1. Biological Survey

a. During the first, third and fifth year of the permit, BP Products North America shall conduct a survey of the aquatic life found within a 200 feet radius of the diffuser. The results of this survey shall be submitted to IDEM's Office of Water Management, Industrial NPDES Permits Section.

PART II

STANDARD CONDITIONS FOR NPDES PERMITS

A. GENERAL CONDITIONS

1. Duty to Comply

The permittee shall comply with all conditions of this permit in accordance with 327 IAC 5-2-8(1). Any permit noncompliance constitutes a violation of the Clean Water Act, and the Environmental Management Act, and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Duty to Mitigate

In accordance with 327 IAC 5-2-8(3), the permittee shall take all reasonable steps to minimize or correct any adverse impact to the environment resulting from noncompliance with this permit. During periods of noncompliance, the permittee shall conduct such accelerated or additional monitoring for the affected parameters, as appropriate or as requested by IDEM, to determine the nature and impact of the noncompliance.

3. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must obtain and submit an application for renewal of this permit in accordance with 327 IAC 5-2-8(2). It is the permittee's responsibility to obtain and submit the application. In accordance with 327 IAC 5-2-3(c), the owner of the facility or operation from which a discharge of pollutants occurs is responsible for applying for and obtaining the NPDES permit, except where the facility or operation is operated by a person other than an employee of the owner in which case it is the operator's responsibility to apply for and obtain the permit. Pursuant to 327 IAC 5-3-2(a)(2), the application must be submitted at least 180 days before the expiration date of this permit. This deadline may be extended if:

a. permission is requested in writing before such deadline;

b. IDEM grants permission to submit the application after the deadline; and

c. the application is received no later than the permit expiration date.

4. Permit Transfers

In accordance with 327 IAC 5-2-8(4)(D), this permit is nontransferable to any person except in accordance with 327 IAC 5-2-6(c). This permit may be transferred to another person by the permittee, without modification or revocation and reissuance being required under 327 IAC 5-2-16(c)(1) or 16(e)(4), if the following occurs:

a. the current permittee notified the Commissioner at least thirty (30) days in advance of the proposed transfer date;

b. a written agreement containing a specific date of transfer of permit responsibility and coverage between the current permittee and the transferee (including acknowledgment that the existing permittee is liable for violations up to that date, and the transferee is liable for violations from that date on) is submitted to the Commissioner;

c. the transferee certifies in writing to the Commissioner their intent to operate the facility without making such material and substantial alterations or additions to the facility as would significantly change the nature or quantities of pollutants discharged and thus constitute cause for permit modification under 327 IAC 5-2-16(d). However, the Commissioner may allow a temporary transfer of the permit without permit modification for good cause, e.g., to enable the transferee to purge and empty the facility's treatment system prior to making alterations, despite the transferee's intent to make such material and substantial alterations or additions to the facility; and

d. the Commissioner, within thirty (30) days, does not notify the current permittee and the transferee of the intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

The Commissioner may require modification or revocation and reissuance of the permit to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act or state law.

5. Permit Actions

In accordance with 327 IAC 5-2-16(b) and 327 IAC 5-2-8(4), this permit may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Failure of the permittee to disclose fully all relevant facts or misrepresentation of any relevant facts in the application, or during the permit issuance process; or

c. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit, e.g., plant closure, termination of discharge by connection to a POTW, a change in state law that requires the reduction or elimination of the discharge, or information indicating that the permitted discharge poses a substantial threat to human health or welfare.

Filing of either of the following items does not stay or suspend any permit condition: (1) a request by the permittee for a permit modification, revocation and reissuance, or termination, or (2) submittal of information specified in Part II.A.3 of the permit including planned changes or anticipated noncompliance.

The permittee shall submit any information that the permittee knows or has reason to believe would constitute cause for modification or revocation and reissuance of the permit at the earliest time such information becomes available, such as plans for physical alterations or additions to the permitted facility, including Ineos and Praxair, that:

1. could significantly change the nature of, or increase the quantity of pollutants discharged; or
2. the commissioner may request to evaluate whether such cause exists.

In accordance with 327 IAC 5-1-3(a)(5), the permittee must also provide any information reasonably requested by the Commissioner.

6. Property Rights

Pursuant to 327 IAC 5-2-8(6) and 327 IAC 5-2-5(b), the issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to persons or private property or invasion of other private rights, any infringement of federal, state, or

local laws or regulations. The issuance of the permit also does not preempt any duty to obtain any other state, or local assent required by law for the discharge or for the construction or operation of the facility from which a discharge is made.

7. Severability

In accordance with 327 IAC 1-1-3, the provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any person or circumstance is held invalid, the invalidity shall not affect any other provisions or applications of the permit which can be given effect without the invalid provision or application.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 of the Clean Water Act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act or state law.

10. Penalties for Violation of Permit Conditions

Pursuant to IC 13-30-4, a person who violates any provision of this permit, the water pollution control laws; environmental management laws; or a rule or standard adopted by the Environmental Rules Board is liable for a civil penalty not to exceed twenty-five thousand dollars ($25,000) per day of any violation.

Pursuant to IC 13-30-5, a person who obstructs, delays, resists, prevents, or interferes with (1) the department; or (2) the department's personnel or designated agent in the performance of an inspection or investigation performed under IC 13-14-2-2 commits a class C infraction.

Pursuant to IC 13-30-10-1.5(k), a person who willfully or recklessly violates any NPDES permit condition or filing requirement, any applicable standards or limitations of IC 13-18-3-2.4, IC 13-18-4-5, IC 13-18-8, IC 13-18-9, IC 13-18-10, IC 13-18-12, IC 13-18-14, IC 13-18-15, or IC 13-18-16, or who knowingly makes any false material statement,

representation, or certification in any NPDES form, notice, or report commits a Class C misdemeanor.

Pursuant to IC 13-30-10-1.5(l), an offense under IC 13-30-10-1.5(k) is a Class D felony if the offense results in damage to the environment that renders the environment unfit for human or vertebrate animal life. An offense under IC 13-30-10-1.5(k) is a Class C felony if the offense results in the death of another person.

11. Penalties for Tampering or Falsification

In accordance with 327 IAC 5-2-8(9), the permittee shall comply with monitoring, recording, and reporting requirements of this permit. The Clean Water Act, as well as IC 13-30-10-1, provides that any person who knowingly or intentionally (a) destroys, alters, conceals, or falsely certifies a record that is required to be maintained under the terms of a permit issued by the department; and may be used to determine the status of compliance, (b) renders inaccurate or inoperative a recording device or a monitoring device required to be maintained by a permit issued by the department, or (c) falsifies testing or monitoring data required by a permit issued by the department commits a Class B misdemeanor.

12. Toxic Pollutants

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act for a toxic pollutant injurious to human health, and that standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition in accordance with 327 IAC 5-2-8(5). Effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants injurious to human health are effective and must be complied with, if applicable to the permittee, within the time provided in the implementing regulations, even absent permit modification.

13. Wastewater treatment plant and certified operators

The permittee shall have the wastewater treatment facilities under the responsible charge of an operator certified by the Commissioner in a classification corresponding to the classification of the wastewater treatment plant as required by IC 13-18-11-11 and 327 IAC 5-22. In order to operate a wastewater treatment plant the operator shall have qualifications as established in 327 IAC 5-22-7.

327 IAC 5-22-10.5(a) provides that a certified operator may be designated as being in responsible charge of more than one (1) wastewater treatment plant, if it can be shown that he will give adequate supervision to all units involved. Adequate supervision means that sufficient time is spent at the plant on a regular basis to assure that the certified operator is knowledgeable of the actual operations and that test reports and results are representative of the actual operations conditions. In accordance with 327 IAC 5-22-3(11), "responsible charge operator" means the person responsible for the overall daily operation, supervision, or management of a wastewater facility.

Pursuant to 327 IAC 5-22-10(4), the permittee shall notify IDEM when there is a change of the person serving as the certified operator in responsible charge of the wastewater treatment facility. The notification shall be made no later than thirty (30) days after a change in the operator.

14. Construction Permit

In accordance with IC 13-14-8-11.6, a discharger is not required to obtain a state permit for the modification or construction of a water pollution treatment or control facility if the discharger has an effective NPDES permit.

If the discharger modifies their existing water pollution treatment or control facility or constructs a new water pollution treatment or control facility for the treatment or control of any new influent pollutant or increased levels of any existing pollutant, then, within thirty (30) days after commencement of operation, the discharger shall file with the Department of Environment Management a notice of installation for the additional pollutant control equipment and a design summary of any modifications.

The notice and design summary shall be sent to the Office of Water Quality - Mail Code 65-42, Industrial NPDES Permits Section, 100 North Senate Avenue, Indianapolis, IN 46204-2251.

15. Inspection and Entry

In accordance with 327 IAC 5-2-8(7), the permittee shall allow the Commissioner, or an authorized representative, (including an authorized contractor acting as a representative of the Commissioner) upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the permittee's premises where a point source, regulated facility, or activity is located or conducted, or where records must be kept pursuant to the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit;

c. Inspect at reasonable times any facilities, equipment or methods (including monitoring and control equipment), practices, or operations regulated or required pursuant to this permit; and

d. Sample or monitor at reasonable times, any discharge of pollutants or internal wastestreams for the purposes of evaluating compliance with the permit or as otherwise authorized.

16. New or Increased Discharge of Pollutants into an OSRW

This permit prohibits the permittee from undertaking any action that would result in the following:

a. A new or increased discharge of a bioaccumulative chemical of concern (BCC), other than mercury.

b. A new or increased discharge of mercury or a new or increased permit limit for a regulated pollutant that is not a BCC unless one of the following is completed prior to the commencement of the action:

(1) Information is submitted to the Commissioner demonstrating that the proposed new or increased discharges will not cause a significant lowering of water quality as defined under 327 IAC 2-1.3-2(50). Upon review of this information, the Commissioner may request additional information or may determine that the proposed increase is a significant lowering of water quality and require the permittee to do the following:

(i) Submit an antidegradation demonstration in accordance with 327 IAC 2-1.3-5; and

(ii) Implement or fund a water quality improvement project in the watershed of the OSRW that results in an overall improvement in water quality in the OSRW in accordance with 327 IAC 2-1.3-7.

(2) An antidegradation demonstration is submitted to and approved by the Commissioner in accordance with 327 IAC 2-1.3-5 and

327 IAC 2-1.3-6 and the permittee implements or funds a water quality improvement project in the watershed of the OSRW that results in an overall improvement in water quality in the OSRW in accordance with 327 IAC 2-1.3-7.

B. MANAGEMENT REQUIREMENTS

1. Proper Operation and Maintenance

The permittee shall at all times maintain in good working order and efficiently operate all facilities and systems (and related appurtenances) for the collection and treatment which are installed or used by the permittee and which are necessary for achieving compliance with the terms and conditions of this permit in accordance with 327 IAC 5-2-8(8).

Neither 327 IAC 5-2-8(8), nor this provision, shall be construed to require the operation of installed treatment facilities that are unnecessary for achieving compliance with the terms and conditions of the permit.

2. Bypass of Treatment Facilities

Pursuant to 327 IAC 5-2-8(11):

a. Terms as defined in 327 IAC 5-2-8(11)(A):

(1) "Bypass" means the intentional diversion of a waste stream from any portion of a treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. The permittee may allow a bypass to occur that does not cause a violation of the effluent limitations in the permit, but only if it is also for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.B.2.c., e, and f of this permit.

c. Bypasses, as defined in (a) above, are prohibited, and the Commissioner may take enforcement action against a permittee for bypass, unless the following occur:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, as defined above;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.B.2.e; or

(4) The condition under Part II.B.2.b above is met.

d. Bypasses that result in death or acute injury or illness to animals or humans must be reported in accordance with the "Spill Response and Reporting Requirements" in 327 IAC 2-6.1, including calling 888/233-7745 as soon as possible, but within two (2) hours of discovery. However, under 327 IAC 2-6.1-3(1), when the constituents of the bypass are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

e. The permittee must provide the Commissioner with the following notice:

(1) If the permittee knows or should have known in advance of the need for a bypass (anticipated bypass), it shall submit prior written notice. If possible, such notice shall be provided at least ten (10) days before the date of the bypass for approval by the Commissioner.

(2) The permittee shall orally report an unanticipated bypass that exceeds any effluent limitations in the permit within 24 hours of becoming aware of the bypass noncompliance. The permittee must also provide a written report within five (5) days of the time the permittee becomes aware of the bypass event. The written report must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; if the cause of noncompliance has not been corrected, the

anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass event. If a complete fax or email submittal is provided within 24 hours of the time that the permittee became aware of the unanticipated bypass event, then that report will satisfy both the oral and written reporting requirement. Emails should be sent to wwreports@idem.in.gov.

f. The Commissioner may approve an anticipated bypass, after considering its adverse effects, if the Commissioner determines that it will meet the conditions listed above in Part II.B.2.c. The Commissioner may impose any conditions determined to be necessary to minimize any adverse effects.

3. Upset Conditions

Pursuant to 327 IAC 5-2-8(12):

a. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Paragraph c of this section, are met.

c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, that:

(1) An upset occurred and the permittee has identified the specific cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee complied with any remedial measures required under Part II.A.2; and

(4) The permittee submitted notice of the upset as required in the "Twenty-Four Hour Reporting Requirements," Part II.C.3, or 327 IAC 2-6.1, whichever is applicable. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

d. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof pursuant to 40 CFR 122.41(n)(4).

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the State and to be in compliance with all Indiana statutes and regulations relative to liquid and/or solid waste disposal. The discharge of pollutants in treated wastewater is allowed in compliance with the applicable effluent limitations in Part I. of this permit.

C. REPORTING REQUIREMENTS

1. Planned Changes in Facility or Discharge

Pursuant to 327 IAC 5-2-8(10)(F), the permittee shall give notice to the Commissioner as soon as possible of any planned alterations or additions to the facility. In this context, permit facility refers to a point source discharge, not a wastewater treatment facility. Notice is required only when either of the following applies:

a. The alteration or addition may meet one of the criteria for determining whether the facility is a new source as outlined in 327 IAC 5-1.5.

b. The alteration or addition could significantly change the nature of, or increase the quantity of, pollutants discharged. This notification applies to pollutants that are subject either to effluent limitations in Part I.A. or to notification requirements in Part II.C.10. of this permit. However, this requirement does not apply to the permittee's use or manufacture of a toxic pollutant solely under research or laboratory conditions.

Following such notice, the permit may be modified to revise existing pollutant limitations and/or to specify and limit any pollutants not previously limited.

2. Monitoring Reports

Pursuant to 327 IAC 5-2-8(9)and 327 IAC 5-2-13 through 15, monitoring results shall be reported at the intervals and in the form specified in "Discharge Monitoring Reports", Part I.C.2.

3. Twenty-Four Hour Reporting Requirements

Pursuant to 327 IAC 5-2-8(10)(C), the permittee shall orally report to the Commissioner information on the following types of noncompliance within 24 hours from the time permittee becomes aware of such noncompliance. If the noncompliance meets the requirements of item b (Part II.C.3.b) or 327 IAC 2-6.1, then the report shall be made within those prescribed time frames. However, under 327 IAC 2-6.1-3(1), when the constituents of the discharge that is in noncompliance are regulated by this permit, and death or acute injury or illness to animals or humans does not occur, the reporting requirements of 327 IAC 2-6.1 do not apply.

a. Any unanticipated bypass which exceeds any effluent limitation in the permit;

b. Any noncompliance which may pose a significant danger to human health or the environment. Reports under this item shall be made as soon as the permittee becomes aware of the non-complying circumstances;

c. Any upset that causes an exceedance of any effluent limitation in the permit;

d. Violation of a maximum daily discharge limitation for any of the following toxic pollutants: Phenolics, Total Chromium and Hexavalent Chromium.

The permittee can make the oral reports by calling (317)232-8670 during regular business hours or by calling (317) 233-7745 ((888)233-7745 toll free in Indiana) during non-business hours. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce and eliminate the noncompliance and prevent its recurrence.

The Commissioner may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. Alternatively the permittee may submit a "Bypass/Overflow Report" (State Form 48373) or a "Noncompliance 24-Hour Notification Report" (State Form 54215), whichever is appropriate, to IDEM at (317) 232-8637 or wwreports@idem.in.gov. If a complete fax or email submittal is sent within 24 hours of the time that the permittee became aware of the occurrence, then the fax report will satisfy both the oral and written reporting requirements.

4. Other Noncompliance/Noncompliance Reporting

Pursuant to 327 IAC 5-2-8(10)(D), the permittee shall report any instance of noncompliance not reported under the "Twenty-Four Hour Reporting Requirements" in Part II.C.3, or any compliance schedules at the time the pertinent Discharge Monitoring Report is submitted. The report shall contain the information specified in Part II.C.3;

The permittee shall also give advance notice to the Commissioner of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements; and

All reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

5. Emergency Repairs or Replacements to the Diffuser System

The permittee shall provide at least 10-day advance written notice to IDEM if it anticipates the need to discharge from Outfall 001 due to the need to perform emergency repairs or replacements to the diffuser system to Outfall 005.

6. Other Information

Pursuant to 327 IAC 5-2-8(10)(E), where the permittee becomes aware of a failure to submit any relevant facts or submitted incorrect information in a permit application or in any report, the permittee shall promptly submit such facts or corrected information to the Commissioner.

7. Signatory Requirements

Pursuant to 327 IAC 5-2-22 and 327 IAC 5-2-8(14):

a. All reports required by the permit and other information requested by the Commissioner shall be signed and certified by a person described below or by a duly authorized representative of that person:

(1) For a corporation: by a responsible corporate officer defined as a president, secretary, treasurer, any vice-president of the corporation in charge of a principal business function, or any other person who performs similar policymaking or decision making functions for the corporation or the manager of one or more manufacturing, production or operating facilities employing more than two hundred fifty (250) persons or having the gross annual sales or expenditures exceeding twenty-five million dollars ($25,000,000) (in second quarter 1980 dollars), if authority to sign documents has been assigned to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a Federal, State, or local government body or any agency or political subdivision thereof: by either a principal executive officer or ranking elected official.

b. A person is duly authorized representative only if:

(1) The authorization is made in writing by a person described above.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

(3) The authorization is submitted to the Commissioner.

c. Certification. Any person signing a document identified under Part II.C.7., shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in

accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering in the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

8. Availability of Reports

Except for data determined to be confidential under 327 IAC 12.1, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Indiana Department of Environmental Management and the Regional Administrator. As required by the Clean Water Act, permit applications, permits, and effluent data shall not be considered confidential.

9. Penalties for Falsification of Reports

IC 13-30 and 327 IAC 5-2-8(14) provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance, shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 180 days per violation, or by both.

10. Changes in Discharge of Toxic Substances

Pursuant to 327 IAC 5-2-9, the permittee shall notify the Commissioner as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge of any pollutant identified as toxic, pursuant to Section 307(a) of the Clean Water Act which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels."

(1) One hundred micrograms per liter (100µg/l);

(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500µg/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitophenol; and one milligram per liter (1mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7)); or

(4) A notification level established by the Commissioner on a case-by-case basis, either at his own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2)..

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 μg/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Sec. 122.21(g)(7).

(4) A notification level established by the Commissioner on a case-by-case basis, either at his own initiative or upon a petition by the permittee. This notification level may exceed the level specified in subdivisions (1), (2), or (3) but may not exceed the level which can be achieved by the technology-based treatment requirements applicable to the permittee under the CWA (see 327 IAC 5-5-2).

c. That it has begun or expects to begin to use or manufacture, as an intermediate or final product or byproduct, any toxic pollutant which was not reported in the permit application under 40 CFR 122.21(g)(9).

PART III
Additional Requirements

A. Thermal Effluent Requirements

Based on a favorable thermal demonstration study submitted by BP Products North America on June 19, 2012, the alternate thermal effluent limitations of 1.7 x 10^9 BTUs/Hour are being approved for continued use at Outfall 002.

B. Intake Structures

The initial 316(b) study for this facility was approved by the U.S. EPA in June of 1975. BP Whiting Business Unit (WBU) provided IDEM a description of the CWIS dated 29 August 2012 to conduct a best professional judgment (BPJ) evaluation of the CWIS to establish that the CWIS is currently equivalent to the best technology available (BTA).

Based on available information; IDEM has made a Best Technology Available (BTA) determination that the existing cooling water intake structures represent best technology available to minimize adverse environmental impact in accordance with Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326) at this time.

This determination is based on Best Professional Judgment (BPJ) and will be reassessed at the next permit reissuance to ensure that the CWISs continue to meet the requirements of Section 316(b) of the federal Clean Water Act (33 U.S.C. section 1326).

IDEM recognizes that for reassessment of its BTA determination during the next permit renewal, fish impingement and entrainment mortality minimization alternatives must be evaluated. The permittee shall comply with the following requirements:

1. At all times properly operate and maintain the cooling water intake structure equipment.

2. Submit to IDEM for review and approval a fish impingement and mortality minimization alternatives evaluation. At a minimum, the evaluation must include an assessment of installation of debris screens, consideration of a separate fish and debris return system and include time frames and cost analysis to implement these measures. This should include a characterization of the species of fish present in the area affected by the CWIS. The permittee shall submit the fish impingement and mortality minimization alternatives evaluation to IDEM within 24 months from the effective date of this permitfor review and approval. The

fish mortality minimization alternatives evaluation shall include the feasibility of installing a fish return to Lake Michigan.

3. If implementation of any operational change or facility modification is required by 316(b) or IDEM, the permittee shall present an implementation plan to IDEM for review and approval within eighteen (18) months of submission of the alternatives evaluation.

4. Inform IDEM of any proposed changes to the CWIS or proposed changes to operations at the facility that affect the information taken into account in the current BTA evaluation.

5. Submit all required reports to the IDEM, Office of Water Quality, Permits Branch, Industrial Section.

C. Intake Water Interruption

In the event that the intake water supply is interrupted and to prevent equipment damage or plant shutdown, firewater or recycle (treated process) water may be substituted for non-contact cooling purposes until the cause of the interruption can be expeditiously corrected. The permittee shall notify the IDEM, Office of Water Quality, Compliance Evaluation Section upon such occurrence and its expected duration.

D. Intake Flow Monitoring

Within 10 months of the effective date of this permit, the permittee shall begin taking 24 hour total flow measurements of the 1911 and 1940 CWISs on a daily basis and the 24-hour total flow of water being taken in at the pump house for the entire BP Products North America, Inc. Whiting Refinery. The permittee shall monitor the 1911 and 1940 CWISs and the water being taken into the pump house for a minimum of 12 months. The flow monitoring data shall be included in the fish impingement and mortality minimization alternatives evaluation.

Part IV
Streamlined Mercury Variance

Introduction

The permittee submitted an application for renewal of a streamlined mercury variance (SMV) on July 25, 2012 in accordance with the provisions of 327 IAC 5-3.5. The SMV establishes a streamlined process for obtaining a variance from a water quality criterion used to establish a WQBEL for mercury in an NPDES permit. Based on a review of the SMV application, IDEM has determined the application to be complete as outlined in 327 IAC 5-3.5-4(e). Therefore, the SMV is being incorporated into the NPDES permit in accordance with 327 IAC 5-3.5-6.

A. Term of SMV

The SMV and the interim discharge limitations in Part I.A.1, will remain in effect until the NPDES permit expires under IC 13-14-8-9. Pursuant to IC 13-14-8-9(d), when the NPDES permit is extended under IC 13-15-3-6 (administratively extended), the SMV will remain in effect as long as the NPDES permit requirements affected by the SMV are in effect.

B. Annual Reports

The permittee shall submit an annual report to IDEM that describes the permittee's progress toward fulfilling each PMPP requirement, the results of all mercury monitoring within the previous year, and the steps taken to implement the planned activities outlined under the PMPP. The annual report must also include documentation of chemical and equipment replacements, staff education programs, and other initiatives regarding mercury awareness or reductions. The complete inventory and complete evaluation required by the PMPP may be submitted as part of the annual report. Submittal of the annual report will be due on April 1st of each year. Annual Reports should be submitted to the Office of Water Quality, Mail Code 65-42, Industrial Permits Section, 100 North Senate Avenue, Indianapolis, Indiana 46204 2251.

C. SMV Renewal

As authorized under 327 IAC 5-3.5-7(a)(1), the permittee may apply for the renewal of an SMV at any time not less than180 days prior to the expiration of the NPDES permit. In accordance with 327 IAC 5-3.5-7(c), an application for renewal of the SMV must contain the following:

- All information required for an initial SMV application under 327 IAC 5-3.5-4, including revisions to the PMPP, if applicable.
- A report on implementation of each provision of the PMPP.
- An analysis of the mercury concentrations determined through sampling at the facility's locations that have mercury monitoring requirements in the

NPDES permit for the two (2) year period prior to the SMV renewal application.

- A proposed alternative mercury discharge limit, if appropriate, to be evaluated by the department according to 327 IAC 5-3.5-8(b) based on the most recent two (2) years of representative sampling information from the facility.

Renewal of the SMV is subject to a demonstration showing that PMPP implementation has achieved progress toward the goal of reducing mercury from the discharge.

D. Pollutant Minimization Program Plan (PMPP) and Interim Effluent Limit

The PMPP is a requirement of the SMV application and is defined in 327 IAC 5-3.5-3(4) as the plan for development and implementation of Pollutant Minimization Program (PMP). The PMPP is defined in 327 IAC 5-3.5-3(3) as the program developed by an SMV applicant to identify and minimize the discharge of mercury into the environment. PMPP requirements (including the enforceable parts of the PMPP) are outlined in 327 IAC 5-3.5-9. In accordance with 327 IAC 5-3.5-6, the permittee's PMPP is appended with this Attachment.

The following PMPP developed by BP Products North America, LLC in accordance with 327 IAC 5-3.5-9 of the Streamlined Mercury Variance Rule is hereby incorporated into this permit as follows:

1. Within 24 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2014), BP will perform an assessment of the mercury content of the sediment in the main process sewer legs that are part of the current sewer cleaning program.

2. Within 24 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2014), BP will complete an assessment of identified process unit wastewater discharges from sources within the refinery that may contain mercury at detection levels utilizing process knowledge, previous analysis or with new analysis if warranted.

3. Within 24 months from the effective date of the permit modification to incorporate the SMV requirements (February 17, 2014), BP will develop a prioritized schedule for the cleaning of the sewers incorporating any significant impacts found from the results of the sewer system characterization study. The sediment and mercury removal progress will be reported in the annual reports.

4. Within 36 months from the effective date of the permit modification to incorporate the SMV requirements (March 1, 2015), BP will complete the detailed inventory list of process chemicals or additives containing mercury, equipment containing mercury and process discharges that contain mercury

5. Within 36 months from the effective date of the permit modification to incorporate the SMV requirements (March 1, 2015), BP will develop a procedure utilizing a ranking method to identify the high-risk equipment and process chemicals for mercury exposure and alternatives that are feasible for their replacement. Then mercury containing chemicals and equipment will be replaced or substituted with chemicals or equipment containing less mercury or no mercury.

E. Evaluation of Wastewater Treatment Technologies for Mercury Removal

By March 1, 2015, BP will complete a study and submit a report on technologies using ultra filtration and filtration with and without chemical additives (precipitants) for removing mercury from wastewater discharged from the Whiting Refinery. The study will evaluate the reliability, effectiveness, technical feasibility and estimated costs of each of the technologies evaluated, and also evaluate the estimated construction and operation timing requirements for each of the technologies evaluated. To continue the technology development work that was started under the Purdue-Argonne study, BP shall conduct further study and pilot testing that will include the following activities:

1. An evaluation at the Whiting Refinery of ultra filtration technology (using GE ZeeWeed® Technology 0.04 µm pore size and made up of PVDF or an equivalent) for removing mercury from the Whiting Refinery's wastewater, utilizing protocols and methods similar to those employed by Purdue/Argonne. BP will conduct a one year long pilot-scale evaluation beginning in August 2013 to accomplish the following:
   - Determine optimum flux rate, percent recovery, and backwash frequency.
   - Quantify the effect of precipitant addition before ultra filtration on mercury removal
   - Determine the reliability and effectiveness of ultra filtration for removing mercury from the wastewater.

   BP will sample influent and permeate three times per week for mercury (total and dissolved). Dissolved mercury sampling of the permeate will be conducted for the first 10 weeks only.

2. An evaluation at the Whiting Refinery of filtration technology (using the existing final filters, with and without chemical additives [precipitants]) for removing mercury from the Whiting Refinery's wastewater. BP already has conducted 3 seasonal periods of sampling, and will conduct a fourth period of sampling for the final filters without

chemical additives (precipitants) by Summer 2014. For the fourth sampling period, BP will conduct six sampling events for mercury (total and dissolved) to accomplish the following:

- Quantify mercury removal.
- Conduct filter media sampling to assess and quantify mercury accumulation within the filters.
- Determine the reliability and effectiveness of filtration without chemical additives (precipitants) for removing mercury from the wastewater.

BP will conduct sampling for the final filters with chemical additives (precipitants) in 2014. BP will conduct six sampling events for mercury (total and dissolved) for each of two precipitants to accomplish the following:

- Quantify the effect of precipitant addition before the final filters on mercury removal.
- Conduct filter media sampling to assess and quantify mercury accumulation within the filters.
- Determine the reliability and effectiveness of filtration with chemical additives (precipitants) for removing mercury from wastewater.

3. An evaluation of the options for handling/treating of the ultra filtration reject and final filter backwash streams associated with the treatment options evaluated in accordance with E.1 and E.2. BP initially will conduct bench scale assessments of the following handling/treatment methods for the ultra filtration reject:
   - Dissolved air flotation
   - Activated sludge
   - Ultra filtration
   - Evaporation

   BP will conduct bench scale assessments of the above options for the final filter backwash, unless it is determined from the ultra filtration reject testing that an option is not technically feasible. BP also will consider the Argonne ferric co-precipitation results, scaling issues, and current full-scale operations in evaluating options for treating/handling the ultra filtration reject and final filter backwash.

4. BP will conduct composite sampling for comparison with grab samples to assess the variability of mercury in the wastewater. BP will collect at least three composite samples for mercury (total and dissolved) to compare with grab samples collected in the same period of time.

5. The evaluations, which will be performed under varying weather and process conditions, will be used to assess the reliability, effectiveness, technical feasibility, and environmental impacts of each of the treatment technologies for reducing mercury in the discharge. BP will determine the mercury removal capability of each technology configuration evaluated (the mercury concentration and loading that was achieved in the effluent under the various operating conditions). BP will identify the optimal

configuration for mercury removal capability for each technology, including the handling/treatment method for ultra filtration reject or final filter backwash.

6. For each of the treatment technologies evaluated, BP will estimate the timing requirements that would be needed for full-scale implementation and operation, including estimated timing for engineering, procurement, construction and commissioning. BP will evaluate the comparative complexity of implementation as identified by differences in implementation timeframes among the technologies evaluated.

7. For each of the treatment technologies evaluated, BP will develop estimates of the costs for full-scale installation and operation of the technology at the Whiting Refinery. The estimates will include estimates of the costs for installing the technology, annual costs for operating and maintaining the technology; and annual costs associated with handling ultra filtration reject or final filter backwash streams. BP will use the cost information in conjunction with the information developed in performing the evaluations described in E.1 – E.5 to evaluate the cost-effectiveness of the treatment technologies evaluated.

8. The report, which BP will submit to IDEM following completion of the study but in no event later than March 1, 2015, shall include an executive summary; a detailed summary of the information that BP generated in performing the evaluations and schedule development described above; all of the monitoring data that BP obtained in the course of the study and pilot testing; and conclusions for each technology evaluated as to (1) whether the technology is capable of reducing mercury from wastewater at the Whiting Refinery and if so, the mercury concentration levels that could be consistently achieved in discharges from the Whiting Refinery following full scale construction and implementation of the technology; (2) the costs of each technology evaluated; and (3) any significant environmental or other reasons why one or more technologies might be preferable to others.

F. Evaluation of Mercury Removal Efficiency of the Brine Treatment Unit

BP will conduct an evaluation of the mercury removal performance of the Brine Treatment Unit. BP will conduct monthly sampling for one year after the Brine Treatment Unit becomes fully operational. BP will sample the influent and effluent at the Brine Treatment Unit for mercury (total and dissolved) to accomplish the following:

- Determine the reliability and effectiveness of the Brine Treatment Unit for removing total and dissolved mercury from the wastewater.

BP will submit the results of this evaluation within six months after the sampling program is completed.

G. Evaluation of Filter Sizes on Mercury Removal

BP will filter clarifier and final filter effluent through different-sized filter paper to determine the resulting TSS and total mercury levels. The results of this testing will be considered along with other factors, such as TSS removal and operability, that BP uses to evaluate selection of filter media.

H. Evaluation of Benzo(a)pyrene, Vanadium, and Arsenic Removal Efficiency of the Brine Treatment Unit

BP will conduct an evaluation of the removal performance of the Brine Treatment Unit. BP will conduct monthly sampling for one year after the Brine Treatment Unit becomes fully operational. BP will sample the influent and effluent at the Brine Treatment Unit for Benzo(a)pyrene, Arsenic and Vanadium to accomplish the following:

- Determine the reliability and effectiveness of the Brine Treatment Unit for removing the above pollutants from the wastewater. BP will submit the results of this evaluation within six months after the sampling program is completed.